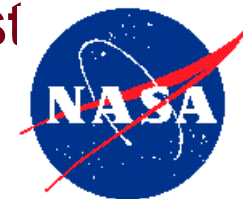# Novel Neural Network Technology for Very Fast Analysis of Hyperspectral Imagery

Opto-Knowledge Systems, Inc.
Torrance, CA

INNOVATION
An integrated benchtop hyperspectral sensor and analysis system was developed for use in laboratory and field applications.

ACCOMPLISHMENTS

◆ Demonstrated the application of compact hyperspectral camera system utilizing a liquid crystal tunable filter for ground truth collection and analysis in support for remote sensing applications

◆ Demonstrated a novel algorithmic paradigm for neural network training specifically optimized for computationally intensive applications such as hyperspectral analysis

◆ Developed a Toolbox of additional algorithms for hyperspectral analysis

◆ Integrated benchtop sensor and Toolbox to form a turnkey system.

COMMERCIALIZATION

◆ Initial sale to Ford Motor Company >$100K
◆ STTR project led to the selection of OKSI by NASA EOCAP Project and a $600K Phase III contract.
◆ System exhibited at the 1998 Neuroscience Conference, and will be exhibited at the 1999 Pittcon. Technology generated wide interest for biological science users. Expected sales for 1999 estimated at >$500K.

Goddard Space Flight Center
1995 STTR Phase 1, SS5-026, 1/25/99
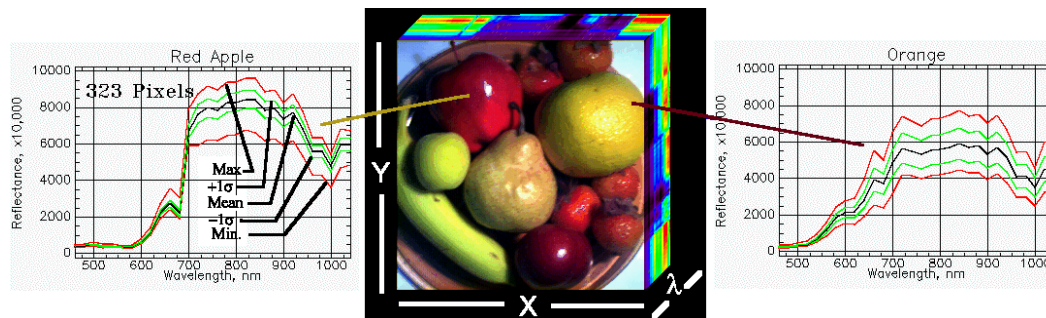
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GOVERNMENT SCIENCE/APPLICATIONS

◆ Interest expressed by scientists at the NIH, USDA and NASA to test the sensor for a wide range of applications ranging from real-time medical, food and other produce inspections, to process control.
◆ System is now in use in the NASA EOCAP-Hyperspectral program for development of hyperspectral precision agriculture applications.

Points of Contact:
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